State of Idaho
Department of Environmental Quality
Air Quality Division

**AIR QUALITY PERMIT**
**STATEMENT OF BASIS**

# Permit to Construct No. P-2008.0103

## Proposed for Public Comment

## Coeur d'Alene Paving, Inc., Rathdrum Plant

## Rathdrum, Idaho

## Facility ID No. 055-00432

## September 5, 2008

**Darrin Pampaian**

**Permit Writer**

The purpose of this Statement of Basis is to satisfy the requirements of IDAPA 58.01.01.et seq, Rules for the Control of Air Pollution in Idaho, for issuing air permits.

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# Acronyms, Units, and Chemical Nomenclature

| | |
|---|---|
| AFS | AIRS Facility Subsystem |
| AIRS | Aerometric Information Retrieval System |
| AQCR | Air Quality Control Region |
| Btu | British thermal unit |
| CAA | Clean Air Act |
| CFR | Code of Federal Regulations |
| CO | carbon monoxide |
| DEQ | Department of Environmental Quality |
| gr | grain (1 lb = 7,000 grains) |
| dscf | dry standard cubic feet |
| EPA | U.S. Environmental Protection Agency |
| HAP | Hazardous Air Pollutant |
| HMA | hot mix asphalt |
| IDAPA | a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act |
| lb/hr | pounds per hour |
| $\mu g/m^3$ | micrograms per cubic meter |
| MMBtu | million British thermal units |
| NESHAP | National Emission Standards for Hazardous Air Pollutants |
| $NO_2$ | nitrogen dioxide |
| $NO_x$ | nitrogen oxides |
| NSPS | New Source Performance Standards |
| PAH | Polycyclic aromatic hydrocarbon |
| PC | permit condition |
| PM | particulate matter |
| $PM_{10}$ | particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers |
| POM | Polycyclic organic matter (7-PAH group) |
| ppm | parts per million |
| PSD | Prevention of Significant Deterioration |
| PTC | permit to construct |
| PTE | potential to emit |
| Rules | Rules for the Control of Air Pollution in Idaho |
| scf | standard cubic feet |
| SIC | Standard Industrial Classification |
| SIP | State Implementation Plan |
| SM | Synthetic Minor |
| $SO_2$ | sulfur dioxide |
| $SO_x$ | sulfur oxides |
| TAP | Toxic Air Pollutant |
| T/yr | tons per year |
| UTM | Universal Transverse Mercator |
| VOC | volatile organic compound |

## 1. FACILITY INFORMATION

### 1.1 Facility Description

The facility is a portable drum-mix hot mix asphalt (HMA) plant (which, per the Applicant, will permitted to operate at only the Rathdrum location at this time) that consists of a natural gas-fired parallel flow drum mix dryer, an asphalt tank heater, a baghouse, an asphalt oil storage tank, and materials transfer equipment. Materials transfer equipment may include front end loaders, storage bins, storage silos, conveyors, stock piles and haul trucks.

For the natural gas-fired parallel flow drum mix dryer process stockpiled aggregate is transferred to feed bins. Aggregate is dispensed from the bins onto feeder conveyors, which transfer the aggregate to the drum mix dryer. Aggregate travels through the rotating drum dryer, and when dried, it is mixed with liquid asphalt oil. The asphalt oil is heated by the natural gas-fired asphalt tank heater to allow it to flow and be mixed with the aggregate. The resulting HMA is conveyed to hot storage bins until it can be loaded into trucks for transport off site or transferred to silos for temporary storage. Electrical power is supplied to the plant from the local power grid. As part of the operation a portable rock crusher is collocated at the facility (with a maximum collocated operation of 12 hrs/day and 750,000 T-crushed rock/yr) which also includes operation of a portable diesel-fired IC engine used to power an electrical generator (with a maximum co-located operation of 600 hrs/yr).

### 1.2 Permitting Action and Facility Permitting History

This permit is the initial PTC for this facility.

## 2. APPLICATION SCOPE AND APPLICATION CHRONOLOGY

### 2.1 Application Scope

Coeur d'Alene Paving, Inc. is proposing to install a new 150 T/hr hot mix asphalt (HMA) plant to produce 3,600 tons per day (T/day) and 300,000 tons per year (T/yr) of HMA. The asphalt tank heater is proposed to operate 24 hours per day for a total of 4,800 hours per year. As part of the operation a portable rock crusher is collocated at the facility which also includes operation of a portable diesel-fired IC engine used to power an electrical generator. The facility will use natural gas exclusively as fuel for the combustion sources at the plant.

### 2.2 Application Chronology

The following information was derived from a review of the permit files available to DEQ. Permit status is noted as active and in effect (A) or superseded (S).

| | |
|---|---|
| April 9, 2008 | Initial application for the HMA plant was received by DEQ. This application was withdrawn April 17, 2008. |
| May 21, 2008 | Initial 15-day PTC project P-2008.0088 was received by DEQ. |
| May 28, 2008 | Project P-2008.0088 was denied by DEQ staff. |
| June 20, 2008 | Second 15-day PTC project P-2008.0103 was received by DEQ. |

| | |
|---|---|
| July 1, 2008 | Project P-2008.0103 was deemed complete and the project was given approval to start construction by DEQ staff. |
| August 26, 2008 | DEQ sent a draft PTC to the facility for review. |
| September 5, 2008 | The project was proposed for a 30-day public comment period. |

# 3. TECHNICAL ANALYSIS

## 3.1 Emission Unit and Control Device

**Table 3.1 EMISSION UNIT AND CONTROL DEVICE INFORMATION**

| Emission Unit /ID No. | Emissions Unit Description | Control Device Description | Emissions Discharge Point ID No. and/or Description |
|---|---|---|---|
| Hot Mix Asphalt Dryer/DRYER P1 | Manufacturer: ALmix<br>Model: 6628<br>Burner Model:<br>Manufacture date: 2008<br>Max. production: 150 T/hr, 300,000 T/yr<br>Maximum capacity: 45.3 MMBtu/hr<br>Fuel: natural gas only | Hot Mix Asphalt Dryer Baghouse<br>Manufacturer: ALmix<br>Model: 20,000 cfm<br>Type: Reverse pulse-jet<br>Number of Bags: 285<br>Air to Cloth ratio: 4.5 to 1<br>$PM/PM_{10}$ Efficiency: 99.96% | BH1<br>Exit height: 33.36 ft<br>Exit diameter: 2.60 ft<br>Exit flow rate: 24,867 acfm<br>Exit temperature: 275 °F |
| Asphalt Tank Heater/HOTOIL | Manufacturer: N/A<br>Model: N/A<br>Maximum operation: 4,800 hr/yr<br>Maximum capacity: 0.7 MMBtu/hr<br>Fuel: natural gas only | None | HOTOIL<br>Exit height: 11.7 ft<br>Exit diameter: 0.67 ft<br>Exit flow rate: 370 acfm<br>Exit temperature: 650 °F |
| Material transfer points/MATHNDLO, MATHNDHI, HMACONVY, HMATRUCK, CR CONVY, CR AGG | Material handling low controls, material handling high controls, HMA aggregate conveyor transfers, truck unloading of aggregate, aggregate conveyor transfers, and aggregate handling emissions | Water sprays or equivalent | Estimated control efficiency: 75% |

## 3.2 Emissions Inventory

An emissions inventory for the HMA plant was developed and submitted by the facility based on emission factors from various sections in AP-42 (including sections 1.3, 11.1, 11.19, and 13.2, the sources and emission controls descriptions summarized in Table 3.1 **EMISSION UNIT AND CONTROL DEVICE INFORMATION**

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, and the following operational limits: 300,000 T/yr maximum asphalt production (2,000 hrs/yr x 150 T/hr), 4,800 hr/yr asphalt tank heater operation, and 12 hr/day maximum crushing operations.

A summary of the uncontrolled and controlled point source emissions are shown in Table 3.2. The controlled and uncontrolled emissions inventories are provided in Appendix B.

**Table 3.2 UNCONTROLLED EMISSIONS ESTIMATES OF CRITERIA POLLUTANTS**

| Emissions Unit | $PM_{10}$ | | $SO_2$ | | NOx | | CO | | VOC | | Lead |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | lb/hr | T/yr | lb/hr | T/yr | lb/hr | T/yr | lb/hr | T/yr | lb/hr | T/yr | lb/quarter |
| **Point Sources Affected by this Permitting Action** | | | | | | | | | | | |
| Hot Mix Asphalt Dryer (DRYER P1)[1] | | 15.11 | | 2.23 | | 17.08 | | 85.41 | | 21.02 | 0.0 |
| Load-out and silo filing[2] | | 0.688 | | 0.0 | | 0.0 | | 1.66 | | 2.65 | 0.0 |
| Asphaltic oil tank heater (HOTOIL)[3] | | 0.0229 | | 0.00181 | | 0.300 | | 0.252 | | 0.0165 | 0.0000036 |
| **Total, Point Sources** | | **15.821** | | **2.232** | | **17.380** | | **87.322** | | **23.687** | **0.0000036** |
| **Process Fugitive/Volume Sources Affected by this Permitting Action** | | | | | | | | | | | |
| MATHNDLO | | 4.824 | | | | | | | | | |
| MATHNDHI | | 0.964 | | | | | | | | | |
| HMACONV | | 0.514 | | | | | | | | | |
| HMATRUCK | | 0.0618 | | | | | | | | | |
| CR CONVY | | 1.26 | | | | | | | | | |
| CR AGG | | 2.25 | | | | | | | | | |
| **Total, Process Fugitives** | | **9.874** | | **0** | | **0** | | **0** | | **0** | **0** |

**Table 3.2 POST PROJECT CONTROLLED EMISSIONS ESTIMATES OF CRITERIA POLLUTANTS**

| Emissions Unit | $PM_{10}$ | | $SO_2$ | | $NO_x$ | | CO | | VOC | | Lead | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | lb/hr | T/yr | lb/hr | T/yr | lb/hr | T/yr | lb/hr | T/yr | lb/hr | T/yr | lb/hr | T/yr |
| **Point Sources Affected by the Permitting Action** | | | | | | | | | | | | |
| Hot Mix Asphalt Dryer (DRYER P1)[1] | 3.45 | 3.45 | 0.51 | 0.51 | 3.90 | 3.90 | 19.50 | 19.50 | 4.80 | 4.80 | 9.3E-05 | 0.0 |
| Load-out and silo filing[2] | 0.166 | 0.166 | 0 | 0 | 0 | 0 | 0.379 | 0.379 | 0.605 | 0.605 | N/A | N/A |
| Asphaltic oil tank heater (HOTOIL)[3] | 0.00522 | 0.0125 | 0.000412 | 0.000988 | 0.0686 | 0.165 | 0.0576 | 0.138 | 0.00377 | 0.00906 | 3.43E-07 | 8.24E-07 |
| Material transfer points (MATHNDLO, MATHNDHI, HMACONVY, HMATRUCK, CR CONVY, CR AGG) | 0.461 | 0.461 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | N/A | N/A |
| **Post Project Totals** | **4.08** | **3.63** | **0.51** | **0.51** | **3.97** | **4.07** | **19.94** | **20.02** | **5.41** | **5.41** | **0.00009** | **0.00000** |

[1] – Based on AP-42 Tables 11.1-3, -4, -7, -8, -10, and -11 (3/04) for $PM_{10}$, $SO_2$, $NO_x$, CO, and VOC combusting natural gas and an Applicant proposed annual production limit of 300,000 T/yr.

[2] – Based on AP-42 Tables 11.1-14 (3/04) for $PM_{10}$, CO, and VOC combusting natural gas and an Applicant proposed annual production limit of 300,000 T/yr with annual operation of 2,000 hrs/yr.

[3] – Based on AP-42 Tables 11.1-3, -4, -7, -8, -10, and -11 (3/04) for $PM_{10}$, $SO_2$, $NO_x$, CO, and VOC combusting natural gas and an Applicant proposed annual limit of 4,800 hrs/yr of operation.

**Table 3.3 CHANGES IN EMISSIONS ESTIMATES OF CRITERIA POLLUTANTS**

| Emissions Unit | $PM_{10}$ | | $SO_2$ | | $NO_x$ | | CO | | VOC | | Lead | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | lb/hr | T/yr | lb/hr | T/yr | lb/hr | T/yr | lb/hr | T/yr | lb/hr | T/yr | lb/hr | T/yr |
| **Point Sources Affected by the Permitting Action** | | | | | | | | | | | | |
| **Pre-Project Totals** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Post Project Totals** | 4.08 | 3.63 | 0.51 | 0.51 | 3.97 | 4.07 | 19.94 | 20.02 | 5.41 | 5.41 | 0 | 0 |
| **Facility Total Change in Emissions** | **4.08** | **3.63** | **0.51** | **0.51** | **3.97** | **4.07** | **19.94** | **20.02** | **5.41** | **5.41** | **0.00009** | **0.00000** |

**Table 3.4 CONTROLLED TAP AND HAP EMISSIONS SUMMARY**

| Toxic Air Pollutants | 24-hour and Annual Average Emissions Rates for Units at the Facility[1] | Non-Carcinogenic Screening Emission Level[2] | Carcinogenic Screening Emission Level[3] | Exceed Screening Level |
|---|---|---|---|---|
| | (lb/hr) | (lb/hr) | (lb/hr) | (Y/N) |
| Acenaphthene[4] | 1.21E-04 | N/A | see PAH, Total | see PAH, Total |
| Acenaphthylene[4] | 3.03E-04 | N/A | see PAH, Total | see PAH, Total |
| Acetaldehyde[5] | 1.17E-05 | N/A | 3.0E-03 | N |
| Acetone | 1.30E-03 | 119 | N/A | N |
| Acrolein[5] | 5.36E-05 | 0.017 | N/A | N |
| Anthracene | 2.76E-05 | N/A | see PAH, Total | see PAH, Total |
| Antimony | 2.70E-05 | 0.033 | N/A | N |
| Arsenic | 1.93E-05 | N/A | 1.5E-06 | Y |
| Barium | 8.73E-04 | 0.033 | N/A | N |
| Benzene[4] | 1.39E-02 | 8.0E-04 | N/A | Y |
| Benzo(a)anthracene | 1.46E-05 | N/A | see POM and PAH, Total | see POM and PAH, Total |
| Benzo(b)fluoranthene | 4.83E-06 | N/A | see POM and PAH, Total | see POM and PAH, Total |
| Benzo(k)fluoranthene | 1.76E-06 | N/A | see POM and PAH, Total | see POM and PAH, Total |
| Benzo(g,h,l)perylene | 1.85E-06 | N/A | see PAH, Total | see PAH, Total |
| Benzo(a)pyrene | 7.24E-07 | N/A | see POM and PAH, Total | see POM and PAH, Total |
| Benzo(e)pyrene | 5.50E-06 | N/A | see PAH, Total | see PAH, Total |
| Berylium | 4.51E-09 | N/A | 2.8E-05 | N |
| Bromomethane | 1.49E-04 | N/A | N/A | N/A |
| Butane | 1.02E-01 | N/A | N/A | N/A |
| Cadmium | 1.45E-05 | N/A | 3.7E-06 | Y |
| Carbon Disulfide | 3.74E-04 | N/A | N/A | N/A |
| Chromium | 8.26E-04 | N/A | N/A | N/A |
| Chromium (VI) | 1.54E-05 | N/A | 5.6E-07 | Y |
| Chrysene | 3.72E-05 | N/A | see POM and PAH, Total | see POM and PAH, Total |
| Cobalt | 3.96E-06 | 0.007 | N/A | N |
| Copper (fume) | 4.66E-04 | 0.013 | N/A | N |
| Cumene | 6.86E-04 | 16.3 | N/A | N |
| Dibenzo(a,h)anthracene | 2.05E-07 | N/A | see POM and PAH, Total | see POM and PAH, Total |
| Dichlorobenzene | 4.51E-07 | 20 o-dichlorobenzene | see PAH, Total p-dichlorobenzene | see PAH, Total |
| Dichloromethane | 4.94E-06 | N/A | 1.6E-03 | N |
| Ethy lbenzene | 3.84E-02 | 29 | N/A | N |
| Ethyl chloride | 7.44E-05 | 176 | N/A | N |
| Ethylene | 1.07 | N/A | N/A | N/A |
| Fluoranthene | 4.17E-05 | N/A | see PAH, Total | see PAH, Total |
| Fluorene | 3.14E-04 | 0.133 | see PAH, Total | see PAH, Total |
| Formaldehyde[4] | 1.09E-01 | N/A | 5.1E-04 | Y |
| Heptane | 1.41 | 109 | N/A | N |
| Hexane | 1.42E-01 | 12 | N/A | N |
| Indeno(1,2,3-cd)pyrene | 4.88E-07 | N/A | see POM | see POM |

**Table 3.4 TAP AND HAP EMISSIONS SUMMARY (continued)**

| Toxic Air Pollutants | Total PTE for Units at the Facility[1] | Non-Carcinogenic Screening Emission Level[2] | Carcinogenic Screening Emission Level[3] | Exceed Screening Level |
|---|---|---|---|---|
| | (lb/hr) | (lb/hr) | (lb/hr) | (Y/N) |
| Isoctane | 6.02E-03 | N/A | N/A | N/A |
| Manganese (fume) | 1.16E-03 | 0.067 | N/A | N |
| Mercury (Alkyl compounds as Hg) | 3.60E-05 | 0.001 | N/A | N |
| Methyl chloride | 5.14E-04 | 6.867 | N/A | N |
| Methyl Ethyl Ketone (MEK) | 1.02E-03 | 39.3 | N/A | N |
| 2-Methylnaphthalene | 3.27E-03 | N/A | see PAH, Total | see PAH, Total |
| 3-Methylchloranthrene | 6.77E-10 | N/A | see PAH, Total | see PAH, Total |
| Methyl Chloroform | 7.20E-03 | N/A | N/A | N/A |
| 2-Methyl-1-Butene | 8.70E-02 | N/A | N/A | N/A |
| 2-Methyl-1-Pentane | 6.00E-01 | N/A | N/A | N/A |
| 3-Methylpentane | 2.85E-02 | N/A | N/A | N/A |
| Molybdenum (soluble) | 7.55E-07 | 0.333 | N/A | N |
| Naphthalene | 3.39E-03 | 3.33 | see PAH, Total | see PAH, Total |
| Nickel | 2.16E-03 | N/A | 2.7E-05 | Y |
| PAH, Total[4] | 8.11E-03 lb/hr, annual avg | | 9.10E-05 | Y |
| Pentane and n-Pentane combined | 3.328E-02 | 118 | N/A | N |
| 1-Pentene | 3.80E-01 | N/A | N/A | N/A |
| Perylene | 5.48E-06 | N/A | see PAH, Total | see PAH, Total |
| Phenanthrene | 5.30E-04 | N/A | see PAH, Total | see PAH, Total |
| Phenol | 6.03E-04 | 1.27 | N/A | N |
| Phosphorus | 4.20E-03 | 0.007 | N/A | N |
| POM (7-PAH group, polycyclic organic matter)[4] | 5.76E-05 lb/hr, annual avg | | 2.00E-06 | Y |
| Pyrene | 7.60E-05 | N/A | see PAH, Total | see PAH, Total |
| Selenium | 5.25E-05 | 0.013 | N/A | N |
| Silver (soluble) | 7.20E-05 | 0.001 | N/A | N |
| Styrene monamer | 1.44E-04 | 6.67 | N/A | N |
| Tetrachloroethylene | 4.80E-05 | N/A | 1.3E-02 | N |
| Thallium | 6.15E-07 | 0.007 | N/A | N |
| Trichloroflouromethane | 8.11E-06 | N/A | N/A | N/A |
| Toluene[4] | 2.69E-02 | N/A | N/A | N/A |
| Vanadium | 1.58E-06 | 0.003 | N/A | N |
| Xylene[4] | 4.36E-02 | 29 | N/A | N |
| m-/p-Xylene | 6.21E-03 | 0.0007 | N/A | Y |
| o-Xylene | 6.03E-03 | 29 | N/A | N |
| Zinc | 9.15E-03 | 0.667 | N/A | N |

[1] – The facility modeled total emissions for all units located at the facility.
[2] – IDAPA 58.01.01.585, Screening Emission Levels based upon 24-hour averages.
[3] – IDAPA 58.01.01.586, Screening Emission Levels based upon annual averages.
[4] – Emissions are from the HMA plant and the diesel-fired IC used to power an electrical generator for the portable rock crushing plant combined.
[5] – Emissions are from the diesel-fired IC used to power an electrical generator for the portable rock crushing plant.

## 3.3 Ambient Air Quality Impact Analysis

The facility has demonstrated compliance to DEQ's satisfaction that emissions from this facility will not cause or significantly contribute to a violation of any ambient air quality standard resulting from the increase in criteria pollutant emissions (see Table 3.5). As part of the modeling analysis the facility has included emissions from the HMA operation as well as emissions from a portable rock crusher operation (with a maximum collocated operation of 12 hrs/day and 750,000 T-crushed rock/yr) which also includes operation of a portable diesel-fired IC engine used to power an electrical generator (with a maximum co-located operation of 600 hrs/yr). **The facility has also demonstrated compliance to DEQ's satisfaction that emissions increase due to this permitting action will not exceed any AAC or AACC for TAPs emissions that exceeded screening emission levels (see Table 3.6).** A summary of the modeling analysis can be found in the modeling memo in Appendix B.

**Table 3.5 FULL IMPACT ANALYSIS RESULTS FOR CRITERIA POLLUTANT(S)**

| Pollutant | Averaging Period | Facility Ambient Impact (µg/m3) | Background Concentration (µg/m$^3$) | Total Ambient Concentration (µg/m$^3$) | NAAQS (µg/m$^3$) | Percent of NAAQS |
|---|---|---|---|---|---|---|
| $PM_{10}$ | 24-hour | 36.00 | 73 | 109.00 | 150 | 72.7% |
| | Annual | 9.18 | 26 | 35.18 | 50 | 70.4% |
| $NO_2$ | Annual | 2.87 | 17 | 19.87 | 100 | 19.9% |
| $SO_2$ | 3-hr | 3.39 | 34 | 37.39 | 1,300 | 2.9% |
| | 24-hr | 2.18 | 26 | 28.18 | 365 | 7.7% |
| | Annual | 0.27 | 8 | 8.27 | 80 | 10.3% |
| CO | 1-hour | 166.04 | 3,600 | 3,766.04 | 40,000 | 9.4% |
| | 8-hour | 129.70 | 2,300 | 2,429.70 | 10,000 | 24.3% |
| Pb | Quarterly | 9.38E-05 | 0 | 0.000094 | 1.5 | 0.0% |

NA: The emissions rate is below the modeling threshold; modeling is not required in accordance with State of Idaho Air Quality Modeling Guidance DEQ Publication, December 2002, or alternative threshold approved by DEQ Modeling Coordinator.

**Table 3.6 FULL IMPACT ANALYSIS RESULTS FOR TAP(S)**

| Pollutant | Average Period | Concentration (µg/m$^3$) | Regulatory AAC/AACC (µg/m$^3$) | Percent of Limit |
|---|---|---|---|---|
| Arsenic | Annual | 0.00001 | 0.00023 | 4.3% |
| Benzene | Annual | 0.00697 | 0.12 | 5.8% |
| Cadmium | Annual | 0.00001 | 0.00056 | 1.8% |
| Chromium (VI) | Annual | 0.00001 | 0.000083 | 12.0% |
| Formaldehyde | Annual | 0.05889 | 0.077 | 76.5% |
| Nickel | Annual | 0.00105 | 0.0042 | 25.0% |
| Total PAHs | Annual | 0.01250 | 0.014 | 89.3% |
| Total POMs | Annual | 0.00027 | 0.0003 | 90.0% |

Note: AACs are in units of milligrams per meter cubed whereas AACCs are in units of micrograms per meter cubed. Convert AACs from milligrams per meter cubed to micrograms per meter cubed.

# 4. REGULATORY REVIEW

## 4.1 Attainment Designation (40 CFR 81.313)

The Coeur d'Alene Paving, Inc., Rathdrum Plant is a portable facility, but is currently being permitted to operate only at the initial proposed location in Kootenai County (AQCR 62), which is designated as no designation for $SO_2$, unclassifiable/attainment for CO, $PM_{2.5}$, $PM_{10}$, $NO_x$, for federal and state criteria air pollutants. Reference 40 CFR 81.313.

## 4.2 Permit to Construct (IDAPA 58.01.01.201)

IDAPA 58.01.01.201.....Permit to Construct Required

The facility's proposed project does not meet the permit to construct exemption criteria contained in Sections 220 through 223 of the Rules. Therefore, a PTC is required.

## 4.3 Tier II Operating Permit (IDAPA 58.01.01.401)

IDAPA 58.01.01.312.....Duty To Apply

The facility is not a Tier I source in accordance with IDAPA 58.01.01.006.113. Therefore, the requirements of IDAPA 58.01.01.312 do not apply.

## 4.4 Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70)

40 CFR 52.21…… .....Prevention of Significant Deterioration Of Air Quality

The facility is not a major stationary source as defined in 40 CFR 52.21(b)(1), nor is it undergoing any physical change at a stationary source, not otherwise qualifying under paragraph 40 CFR 52.21(b)(1) as a major stationary source, that would constitute a major stationary source by itself as defined in 40 CFR 52. Therefore, in accordance with 40 CFR 52.21(a)(2), the PSD requirements do not apply.

## 4.5 PSD Classification (40 CFR 52.21)

40 CFR 52.21…… .....Prevention of Significant Deterioration Of Air Quality

The facility is not a major stationary source as defined in 40 CFR 52.21(b)(1), nor is it undergoing any physical change at a stationary source, not otherwise qualifying under paragraph 40 CFR 52.21(b)(1) as a major stationary source, that would constitute a major stationary source by itself as defined in 40 CFR 52. Therefore, in accordance with 40 CFR 52.21(a)(2), the PSD requirements do not apply.

## 4.6 NSPS Applicability (40 CFR 60)

40 CFR 60, Subpart I .....National Standards of Performance for Hot Mix Asphalt Plants

40 CFR 60.90 .....Applicability and designation of affected facility

In accordance with §60.90(a), each hot mix asphalt facility is an affected facility. In accordance with §60.90(b), any hot mix asphalt facility that commences construction or modification after June 11, 1973 is subject to the requirements of Subpart I.

The affected facility includes: the dryer; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler; systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems.

40 CFR 60.91 .....Definitions

This section contains the definitions of this subpart.

40 CFR 60.92 .....Standard for particulate matter.

In accordance with §60.92, no owner or operator shall discharge or cause the discharge into the atmosphere from any affected facility any gases which contain particulate matter in excess of 0.04 gr/dscf or exhibit 20% opacity or greater. Permit Condition 2.4 includes the requirements of this section.

40 CFR 60.93 .....Test methods and procedures

In accordance with §60.93(a), performance tests shall use as reference methods and procedures the test methods in Appendix A of 40 CFR 60.

In accordance with §60.93(b), compliance with the particulate matter standards shall be determined by EPA Reference Method 5, and opacity shall be determined by EPA Reference Method 9.

Permit Conditions 2.17, 2.20, 2.22, and 2.24 include the requirements of this section.

## 4.7 NESHAP Applicability (40 CFR 61)

No NESHAPs apply to this facility.

## 4.8 MACT Applicability (40 CFR 63)

No MACTs apply to this facility because it is a minor source of HAPs.

## 4.9 CAM Applicability (40 CFR 64)

The facility is a minor facility for purposes of Title V, and is therefore not subject to CAM requirements.

## 4.10 Permit Conditions Review

This is the initial permit for the Rathdrum Plant. All permit conditions are new.

Permit Condition 2.3 establishes hourly and annual emissions limits for $PM_{10}$, $SO_2$, $NO_x$, CO, and VOC emissions from the natural gas-fired HMA dryer and the load-out and silo filling operations.

Permit Conditions 2.4 and 2.27 incorporate 40 CFR 60, Subpart I – Standards of Performance for Hot Mix Asphalt Facilities. See section 4.6 “NSPS Applicability (40 CFR 60)” of this Statement of Basis for a detailed review.

Permit Condition 2.5 establishes a 20% opacity limit for the HMA dryer and the load-out and silo filling stacks, vents, or functionally equivalent openings associated with the HMA dryer and the load-out and silo filling. Compliance shall be demonstrated through Permit Condition 2.16.

Permit Condition 2.6 establishes that there are to be no emissions of odorous gases, liquids, or solids from the HMA dryer and the load-out and silo filling operations into the atmosphere in such quantities that cause air pollution.

Permit Condition 2.7 sets daily and annual throughput limits for HMA production as proposed by the Applicant.

Permit Condition 2.8 establishes that only natural gas is allowed to be used as fuel in the HMA dryer as proposed by the Applicant.

Permit Condition 2.9 establishes setback requirements from the property boundary for HMA equipment/activities as proposed by the Applicant.

Permit Condition 2.10 establishes a daily and an annual limit for operation of the portable rock crusher at this facility as proposed by the Applicant.

Permit Condition 2.11 establishes setback requirements from the property boundary for the portable rock crusher plant equipment/activities as proposed by the Applicant.

Permit Condition 2.12 establishes that the permittee shall install and operate a baghouse filter system to control particulate emissions from the HMA dryer.

Permit Condition 2.13 establishes that the permittee shall monitor the differential pressure across the filters in the HMA dryer baghouse.

Permit Condition 2.14 establishes that the permittee shall create a Baghouse Filter System Procedures document to ensure proper operation of the pollution control equipment.

Permit Condition 2.15 establishes that the permittee shall maintain the differential pressure across the bags in the HMA asphalt dryer baghouse within the manufacturer's specifications.

Permit Condition 2.16 establishes that the permittee shall apply and receive approval from DEQ to move the HMA plant to a different location.

Permit Condition 2.17 establishes that the permittee shall maintain daily and annual records of HMA production.

Permit Condition 2.18 establishes that the permittee shall maintain records of the setback distances for equipment/activities associated with the HMA operation.

Permit Condition 2.19 establishes that the permittee shall maintain records of co-location of the portable rock crusher operation.

Permit Condition 2.20 establishes that the permittee shall maintain records of the setback distances for equipment/activities associated with the portable rock crusher operation.

Permit Condition 2.21 establishes that the permittee shall monitor and record the differential pressure of the HMA dryer baghouse on a weekly basis.

Permit Condition 2.22 establishes that the permittee shall perform facility-wide visible emissions monitoring on a monthly basis when the HMA plant is operated.

Permit Condition 2.23 establishes that the permittee shall document all odor complaints and any corrective actions taken.

Permit Condition 2.24 establishes that the permittee shall maintain records as required by General Provision 7.

Permit Condition 2.25 establishes that the permittee shall perform source testing on the HMA dryer baghouse within 180 days of permit issuance.

Permit Condition 2.26 establishes the schedule that the permittee shall perform source testing of the HMA dryer baghouse on.

Permit Condition 2.27 establishes the test methods that the permittee shall use to perform source testing of the HMA dryer baghouse.

Permit Condition 2.28 establishes how the results of the source tests are reported to DEQ.

Permit Condition 2.29 incorporates 40 CFR 60, Subpart A – General provisions.

Permit Condition 3.3 establishes hourly and annual emissions limits for $PM_{10}$, $SO_2$, $NO_x$, CO, VOC, and Lead emissions from the natural gas-fired asphaltic oil tank heater.

Permit Condition 3.4 establishes a 20% opacity limit for the natural gas-fired asphaltic oil tank heater stack, vents, or functionally equivalent openings associated with this process.

Permit Condition 3.5 establishes that there are to be no emissions of odorous gases, liquids, or solids from the natural gas-fired asphaltic oil tank heater operation into the atmosphere in such quantities that cause air pollution.

Permit Condition 3.6 sets an annual operational limit for the asphaltic oil tank heater as proposed by the Applicant.

Permit Condition 3.7 establishes that only natural gas is allowed to be used as fuel in the asphaltic oil tank heater as proposed by the Applicant.

Permit Condition 3.8 establishes that the permittee shall maintain annual records of asphaltic oil tank heater operation.

Permit Condition 3.9 establishes that the permittee shall document all odor complaints and any corrective actions taken.

Permit Condition 3.10 establishes that the permittee shall maintain records as required by General Provision 7.

Permit Condition 4.3 establishes that the permittee shall take all reasonable precautions, of which a partial list is provided, to prevent fugitive particulate matter (PM) from becoming airborne.

Permit Condition 4.4 establishes that the permittee shall implement strategies to control fugitive dust emissions.

Permit Condition 4.5 establishes that the permittee shall develop and submit to DEQ a “Fugitive Dust Control Plan” for the operation of the HMA plant and associated equipment for the facility.

Permit Condition 4.6 establishes that the permittee shall maintain records as required by General Provision 7.

## 5. PERMIT FEES

Table 5.1 lists the processing fee associated with this permitting action. The facility is subject to a processing fee of $5,000.00 because its permitted annual change in emissions is 33.64 T/yr. Refer to the chronology for fee receipt dates.

**Table 5.1 PTC PROCESSING FEE TABLE**

| Emissions Inventory | | | |
|---|---|---|---|
| **Pollutant** | **Annual Emissions Increase (T/yr)** | **Annual Emissions Reduction (T/yr)** | **Annual Emissions Change (T/yr)** |
| $PM_{10}$ | 3.63 | 0 | 3.58 |
| $SO_2$ | 0.51 | 0 | 0.52 |
| $NO_x$ | 4.07 | 0 | 10.60 |
| CO | 20.02 | 0 | 21.38 |
| VOC | 5.41 | 0 | 4.99 |
| HAPS[1] | 0 | 0 | 5.56 |
| **Totals:** | **33.64** | **0.00** | **33.64** |
| **Fee Due** | **$5,000.00 Based upon an annual increase in emissions of > 10 T/yr to < 100 t/yr for a new source** | | |

[1] – Metal HAPS emissions were accounted for in the facility's $PM_{10}$ emissions and VOC HAPS were accounted for in the facility's VOC emissions.

## 6. PUBLIC COMMENT

An opportunity for public comment period on the PTC application was provided from **July 28 to August 12, 2008** in accordance with IDAPA 58.01.01.209.01.c. During this time, there **WERE** comments on the application and there **WAS** a request for a public comment period on DEQ's proposed action.

# Appendix A – AIRS Information

# *AIRS/AFS[a] FACILITY-WIDE CLASSIFICATION[b] DATA ENTRY FORM*

**Permittee/Facility Name:** **Coeur d'Alene Paving, Inc., Rathdrum Plant**

**Facility Location:** **Rathdrum, ID**

**AIRS Number:** **055-00432**

| AIR PROGRAM POLLUTANT | SIP | PSD | NSPS (Part 60) | NESHAP (Part 61) | MACT (Part 63) | SM80 | TITLE V | AREA CLASSIFICATION A-Attainment U-Unclassified N- Nonattainment |
|---|---|---|---|---|---|---|---|---|
| **$SO_2$** | B | | | | | | | N |
| **$NO_x$** | B | | | | | | | U/A |
| **CO** | B | | | | | | | U/A |
| **$PM_{10}$** | SM | | SM | | | | | U/A |
| **PT (Particulate)** | SM | | | | | | | |
| **VOC** | B | | | | | | | U |
| **THAP (Total HAPs)** | B | | | | | | | |
| | | | **APPLICABLE SUBPART** | | | | | |
| | | | A, I | | | | | |

[a] Aerometric Information Retrieval System (AIRS) Facility Subsystem (AFS)

[b] AIRS/AFS Classification Codes:

A = Actual or potential emissions of a pollutant are above the applicable major source threshold. For HAPs only, class "A" is applied to each pollutant which is at or above the 10 T/yr threshold, **or** each pollutant that is below the 10 T/yr threshold, but contributes to a plant total in excess of 25 T/yr of all HAPs.

SM = Potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations.

B = Actual and potential emissions below all applicable major source thresholds.

C = Class is unknown.

ND = Major source thresholds are not defined (e.g., radionuclides).

# Appendix B – Emissions Inventory

Uncontrolled Emissions:

Hot Mix Asphalt Dryer emissions

Uncontrolled Emissions (T-$PM_{10}$/yr) = Controlled PE (lb/hr) x 8,760 hrs/yr

Uncontrolled Emissions (T-$PM_{10}$/yr) = EF (lb-$PM_{10}$/T) x Production rate (T/hrs) x 8,760 hrs/yr ÷ 2,000 lb/T
Uncontrolled Emissions T-$PM_{10}$/yr = 0.023 lb-$PM_{10}$/T x 150 T/hrs x 8,760 hrs/yr ÷ 2,000 lb/T
**Uncontrolled Emissions = 15.11 T-$PM_{10}$/yr**

Uncontrolled Emissions (T/yr) = Controlled PE (lb/hr) x 8,760 hrs/yr

Uncontrolled Emissions (T-$SO_2$/yr) = Controlled PE (lb-$SO_2$/hr) x 8,760 hrs/yr ÷ 2,000 lb/T
Uncontrolled Emissions T-$SO_2$/yr = 0.51 lb-$SO_2$/hr x 8,760 hrs/yr ÷ 2,000 lb/T
**Uncontrolled Emissions = 2.23 T-$SO_2$/yr**

Uncontrolled Emissions (T-$NO_x$/yr) = Controlled PE (lb-$NO_x$/hr) x 8,760 hrs/yr ÷ 2,000 lb/T
Uncontrolled Emissions T-$NO_x$/yr = 3.90 lb-$NO_x$/hr x 8,760 hrs/yr ÷ 2,000 lb/T
**Uncontrolled Emissions = 17.08 T-$NO_x$/yr**

Uncontrolled Emissions (T-CO/yr) = Controlled PE (lb-CO/hr) x 8,760 hrs/yr ÷ 2,000 lb/T
Uncontrolled Emissions T-CO/yr = 19.50 lb-CO/hr x 8,760 hrs/yr ÷ 2,000 lb/T
**Uncontrolled Emissions = 85.41 T-CO/yr**

Uncontrolled Emissions (T-VOC/yr) = Controlled PE (lb-VOC/hr) x 8,760 hrs/yr ÷ 2,000 lb/T
Uncontrolled Emissions T-VOC/yr = 4.80 lb-VOC/hr x 8,760 hrs/yr ÷ 2,000 lb/T
**Uncontrolled Emissions = 21.02 T-VOC/yr**

Load-out and silo filling emissions

Uncontrolled Emissions (T/yr) = Controlled PE (lb/hr) x 8,760 hrs/yr

Uncontrolled Emissions (T-$PM_{10}$/yr) = Controlled PE (lb-$PM_{10}$/hr) x 8,760 hrs/yr ÷ 2,000 lb/T
Uncontrolled Emissions T-$PM_{10}$/yr = 0.157 lb-$PM_{10}$/hr x 8,760 hrs/yr ÷ 2,000 lb/T
**Uncontrolled Emissions = 0.688 T-$PM_{10}$/yr**

Uncontrolled Emissions (T-$SO_2$/yr) = Controlled PE (lb-$SO_2$/hr) x 8,760 hrs/yr ÷ 2,000 lb/T
Uncontrolled Emissions T-$SO_2$/yr = 0.0 lb-$SO_2$/hr x 8,760 hrs/yr ÷ 2,000 lb/T
**Uncontrolled Emissions = 0.0 T-$SO_2$/yr**

Uncontrolled Emissions (T-$NO_x$/yr) = Controlled PE (lb-$NO_x$/hr) x 8,760 hrs/yr ÷ 2,000 lb/T
Uncontrolled Emissions T-$NO_x$/yr = 0.0 lb-$NO_x$/hr x 8,760 hrs/yr ÷ 2,000 lb/T
**Uncontrolled Emissions = 0.0 T-$NO_x$/yr**

Uncontrolled Emissions (T-CO/yr) = Controlled PE (lb-CO/hr) x 8,760 hrs/yr ÷ 2,000 lb/T
Uncontrolled Emissions T-CO/yr = 0.379 lb-CO/hr x 8,760 hrs/yr ÷ 2,000 lb/T
**Uncontrolled Emissions = 1.66 T-CO/yr**

Uncontrolled Emissions (T-VOC/yr) = Controlled PE (lb-VOC/hr) x 8,760 hrs/yr ÷ 2,000 lb/T
Uncontrolled Emissions T-VOC/yr = 0.605 lb-VOC/hr x 8,760 hrs/yr ÷ 2,000 lb/T
**Uncontrolled Emissions = 2.65 T-VOC/yr**

Asphaltic Oil Tank Heater emissions

Uncontrolled Emissions (T/yr) = Controlled PE (lb/hr) x 8,760 hrs/yr

Uncontrolled Emissions (T-$PM_{10}$/yr) = Controlled PE (lb-$PM_{10}$/hr) x 8,760 hrs/yr ÷ 2,000 lb/T
Uncontrolled Emissions T-$PM_{10}$/yr = 0.00522 lb-$PM_{10}$/hr x 8,760 hrs/yr ÷ 2,000 lb/T
**Uncontrolled Emissions = 0.0229 T-$PM_{10}$/yr**

Uncontrolled Emissions (T-$SO_2$/yr) = Controlled PE (lb-$SO_2$/hr) x 8,760 hrs/yr ÷ 2,000 lb/T
Uncontrolled Emissions T-$SO_2$/yr = 0.000412 lb-$SO_2$/hr x 8,760 hrs/yr ÷ 2,000 lb/T
**Uncontrolled Emissions = 0.00181 T-$SO_2$/yr**

Uncontrolled Emissions (T-$NO_x$/yr) = Controlled PE (lb-$NO_x$/hr) x 8,760 hrs/yr ÷ 2,000 lb/T
Uncontrolled Emissions T-$NO_x$/yr = 0.0686 lb-$NO_x$/hr x 8,760 hrs/yr ÷ 2,000 lb/T
**Uncontrolled Emissions = 0.300 T-$NO_x$/yr**

Uncontrolled Emissions (T-CO/yr) = Controlled PE (lb-CO/hr) x 8,760 hrs/yr ÷ 2,000 lb/T
Uncontrolled Emissions T-CO/yr = 0.0576 lb-CO/hr x 8,760 hrs/yr ÷ 2,000 lb/T
**Uncontrolled Emissions = 0.252 T-CO/yr**

Uncontrolled Emissions (T-VOC/yr) = Controlled PE (lb-VOC/hr) x 8,760 hrs/yr ÷ 2,000 lb/T
Uncontrolled Emissions T-VOC/yr = 0.00377 lb-VOC/hr x 8,760 hrs/yr ÷ 2,000 lb/T
**Uncontrolled Emissions = 0.0165 T-VOC/yr**

Uncontrolled Emissions (T-Lead/yr) = Controlled PE (lb-Lead/hr) x 8,760 hrs/yr ÷ 2,000 lb/T
Uncontrolled Emissions T-Lead/yr = 0.000000824 lb-Lead/hr x 8,760 hrs/yr ÷ 2,000 lb/T
**Uncontrolled Emissions = 0.0000036 T-Lead/yr**

Fugitive Aggregate Handling emissions

Uncontrolled Emissions for MATHNDLO (T-$PM_{10}$/yr) = Uncontrolled PE (lb/hr) x 8,760 hrs/yr ÷ 2,000 lb/T
Uncontrolled Emissions for MATHNDLO T-$PM_{10}$/yr = (0.011701 lb-$PM_{10}$/hr + 0.049051 lb-$PM_{10}$/hr + 0.103502 lb-$PM_{10}$/hr + 0.194561 lb-$PM_{10}$/hr + 0.307883 lb-$PM_{10}$/hr + 0.434572 lb-$PM_{10}$/hr) x 8,760 hrs/yr ÷ 2,000 lb/T
**Uncontrolled Emissions for MATHNDLO = 4.824 T-$PM_{10}$/yr**

Uncontrolled Emissions for MATHNDHI (T-$PM_{10}$/yr) = Uncontrolled PE (lb/hr) x 8,760 hrs/yr ÷ 2,000 lb/T
Uncontrolled Emissions for MATHNDHI T-$PM_{10}$/yr = (0.002340 lb-$PM_{10}$/hr + 0.009810 lb-$PM_{10}$/hr + 0.020700 lb-$PM_{10}$/hr + 0.038912 lb-$PM_{10}$/hr + 0.061577 lb-$PM_{10}$/hr + 0.086914 lb-$PM_{10}$/hr) x 8,760 hrs/yr ÷ 2,000 lb/T
**Uncontrolled Emissions for MATHNDHI = 0.964 T-$PM_{10}$/yr**

Uncontrolled Emissions for HMACONVY (T-$PM_{10}$/yr) = Uncontrolled PE (lb/hr) x 8,760 hrs/yr ÷ 2,000 lb/T
Uncontrolled Emissions for HMACONVY T-$PM_{10}$/yr = (0.00649 lb-$PM_{10}$/hr + 0.00649 lb-$PM_{10}$/hr + 0.10434 lb-$PM_{10}$/hr) x 8,760 hrs/yr ÷ 2,000 lb/T
**Uncontrolled Emissions for HMACONVY = 0.514 T-$PM_{10}$/yr**

Uncontrolled Emissions for HMATRUCK (T-$PM_{10}$/yr) = Uncontrolled PE (lb/hr) x 8,760 hrs/yr ÷ 2,000 lb/T

Uncontrolled Emissions for HMATRUCK T-$PM_{10}$/yr = (0.01410 lb-$PM_{10}$/hr) x 8,760 hrs/yr ÷ 2,000 lb/T

**Uncontrolled Emissions for HMATRUCK = 0.0618 T-$PM_{10}$/yr**

Uncontrolled Emissions for CR CONVY (T-$PM_{10}$/yr) = Uncontrolled PE (lb/hr) x 8,760 hrs/yr ÷ 2,000 lb/T

Uncontrolled Emissions for CR CONVY T-$PM_{10}$/yr = (0.03450 lb-$PM_{10}$/hr + 0.03450 lb-$PM_{10}$/hr + 0.03450 lb-$PM_{10}$/hr + 0.03450 lb-$PM_{10}$/hr + 0.555 lb-$PM_{10}$/hr + 0.555 lb-$PM_{10}$/hr + 0.01200 lb-$PM_{10}$/hr) x 8,760 hrs/yr ÷ 2,000 lb/T

**Uncontrolled Emissions for CR AGG = 1.26 T-$PM_{10}$/yr**

Uncontrolled Emissions for CR AGG (T-$PM_{10}$/yr) = Uncontrolled PE (lb/hr) x 8,760 hrs/yr ÷ 2,000 lb/T

Uncontrolled Emissions for CR AGG T-$PM_{10}$/yr = (0.405 lb-$PM_{10}$/hr + 0.108 lb-$PM_{10}$/hr) x 8,760 hrs/yr ÷ 2,000 lb/T

**Uncontrolled Emissions for CR CONVY = 2.25 T-$PM_{10}$/yr**

See applicant supplied spreadsheet for PTE Emissions Calculations:

# Appendix C – Ambient Air Quality Impact Analysis

**M E M O R A N D U M DRAFT**

**DATE:** August 6, 2008

**TO:** Darrin Pampaian, Air Quality Analyst, Air Program

**FROM:** Kevin Schilling, Stationary Source Modeling Coordinator, Air Program

**PROJECT NUMBER:** P-2008.0103

**SUBJECT:** Modeling Review for the Coeur d'Alene Paving Inc., Permit to Construct Application for a Portable Hot Mix Asphalt Plant

## 1.0 SUMMARY

Coeur d'Alene Paving, Inc. (Coeur d'Alene Paving) submitted a Permit to Construct (PTC) application for a hot mix asphalt plant (HMA) to be operated near Rathdrum, Idaho. Air quality analyses involving atmospheric dispersion modeling of emissions associated with the proposed project were performed to demonstrate the new facility would not cause or significantly contribute to a violation of any ambient air quality standard (IDAPA 58.01.01.203.02 [Idaho Air Rules Section 203.02]). Cascade Environmental Management (Cascade), Coeur d'Alene Paving's consultant, performed the site-specific ambient air quality analyses.

A technical review of the submitted analyses was conducted by DEQ. The submitted information, in combination with DEQ's air quality analyses: 1) utilized appropriate methods and models; 2) was conducted using reasonably accurate or conservative model parameters and input data; 3) adhered to established DEQ guidelines for new source review dispersion modeling; 4) showed either a) that predicted pollutant concentrations from emissions associated with the proposed facility were below significant contribution levels (SCLs) or other applicable regulatory thresholds; or b) that predicted pollutant concentrations from emissions associated with the facility and any potentially co-contributing sources, when appropriately combined with background concentrations, were below applicable air quality standards at all locations outside of the facility's property boundary. Table 1 presents key assumptions and results that should be considered in the development of the permit.

The scope of DEQ's review is only to assure compliance with applicable federal and state air quality standards. DEQ's review does not address any county-specific or city-specific regulations pertaining to air pollutant impacts. Issuance of this permit does not assure compliance with local requirements or planning and zoning decisions.

| Table 1: KEY CONDITIONS USED IN MODELING ANALYSES | |
|---|---|
| **Criteria/Assumption/Result** | **Explanation/Consideration** |
| HMA plant: Throughput must be limited to 3,600 ton of HMA/day and 300,000 ton HMA/year. | The air quality analyses performed assumed these maximum throughput rates. |
| Locations of the following equipment/activities associated with the HMA plant must maintain the following minimal setback distances from the property boundary:<br>- Drum dryer = 64 meters<br>- Aggregate screen = 102 meters<br>- Aggregate handling activities = 38 meters from the northern boundary and 60 meters from all other boundaries. | Setback distances are the minimal distance between the emissions point and the ambient air boundary (the property boundary). |
| Operations/activities conducted at the site where the HMA plant is located, resulting in emissions co-contributing to impacts of the HMA, should only be allowed as described below. | Emissions are considered co-contributing if they occur within 1,000 feet (305 meters) of each other. |
| Rock crushing plant: A rock crushing plant may be operated at the site with the HMA plant. When operating simultaneously, the throughput of the rock crushing plant must be limited to 9,000 ton/day and 450,000 ton/year. Operations of a diesel generator associated with the crushing plant must be limited to 12 hour/day, or have a daily fuel limit corresponding to 12 hour/day operation. | Simultaneous operation is considered as any operation of both plants during a single day (for the purposes of the daily throughput limit) and a single year (for purpose of the annual throughput limit). |
| Locations of the following equipment/activities associated with the rock crushing plant must maintain the following minimal setback distances from the property boundary:<br>- crushers and screen = 95 meters<br>- conveyor transfers and truck unloading = 74 meters<br>- aggregate handling and diesel generator = 85 meters | These requirements are only applicable to the rock crushing plant when operating simultaneously with the HMA plant, as simultaneous operation is defined above. |
| Operation of the HMA at other sites cannot be allowed. | The analyses submitted were site-specific. They do not support operation in other areas. |

# 2.0 BACKGROUND INFORMATION

## 2.1 Applicable Air Quality Impact Limits and Modeling Requirements

This section identifies applicable ambient air quality limits and analyses used to demonstrate compliance.

### *2.1.1 Area Classification*

The Coeur d'Alene Paving HMA will be located near Rathdrum, Idaho. The area is designated as attainment or unclassifiable for all criteria pollutants.

### *2.1.2 Significant and Full NAAQS Impact Analyses*

If estimated maximum pollutant impacts to ambient air from the emissions sources associated with the proposed new facility exceed the significant contribution levels (SCLs) of Idaho Air Rules Section 006.102, then a cumulative NAAQS impact analysis is necessary to demonstrate compliance with National Ambient Air Quality Standards (NAAQS) and Idaho Air Rules Section 203.02. A cumulative NAAQS impact analysis for attainment area pollutants involves adding ambient impacts from facility-wide emissions, and emissions from any nearby co-contributing sources, to DEQ-approved background concentration values that are appropriate for the criteria pollutant/averaging-time at the facility location and the area of significant impact. The resulting maximum pollutant concentrations in ambient air are then compared to the NAAQS listed in Table 2. Table 2 also lists SCLs and specifies the modeled value that must be used for comparison to the NAAQS.

| Table 2: APPLICABLE REGULATORY LIMITS | | | | |
|---|---|---|---|---|
| **Pollutant** | **Averaging Period** | **Significant Contribution Levels[a] ($\mu g/m^3$)[b]** | **Regulatory Limit[c] ($\mu g/m^3$)** | **Modeled Value Used[d]** |
| $PM_{10}$[e] | Annual[f] | 1.0 | 50[g] | Maximum 1st highest[h] |
| | 24-hour | 5.0 | 150[i] | Maximum 6th highest[j] |
| $PM_{2.5}$[k] | Annual | Not established | 15 | Use $PM_{10}$ as surrogate |
| | 24-hour | Not established | 35 | Use $PM_{10}$ as surrogate |
| Carbon monoxide (CO) | 8-hour | 500 | 10,000[l] | Maximum 2nd highest[h] |
| | 1-hour | 2,000 | 40,000[l] | Maximum 2nd highest[h] |
| Sulfur Dioxide ($SO_2$) | Annual | 1.0 | 80[g] | Maximum 1st highest[h] |
| | 24-hour | 5 | 365[l] | Maximum 2nd highest[h] |
| | 3-hour | 25 | 1,300[l] | Maximum 2nd highest[h] |
| Nitrogen Dioxide ($NO_2$) | Annual | 1.0 | 100[g] | Maximum 1st highest[h] |
| Lead (Pb) | Quarterly | NA | 1.5[i] | Maximum 1st highest[h] |

[a]Idaho Air Rules Section 006.102
[b]Micrograms per cubic meter
[c]Idaho Air Rules Section 577 for criteria pollutants
[d]The maximum 1st highest modeled value is always used for the significant impact analysis
[e]Particulate matter with an aerodynamic diameter less than or equal to a nominal ten micrometers
[f]The annual $PM_{10}$ standard was revoked in 2006. The standard is still listed because compliance with the annual $PM_{2.5}$ standard is demonstrated by a $PM_{10}$ analysis that demonstrates compliance with the revoked $PM_{10}$ standard.
[g]Never expected to be exceeded in any calendar year
[h]Concentration at any modeled receptor
[i]Never expected to be exceeded more than once in any calendar year
[j]Concentration at any modeled receptor when using five years of meteorological data
[k]Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers
[l]Not to be exceeded more than once per year

New source review requirements for assuring compliance with $PM_{2.5}$ standards have not yet been completed and promulgated into regulation. EPA has asserted through a policy memorandum that compliance with $PM_{2.5}$ standards will be assured through an air quality analysis for the corresponding $PM_{10}$ standard. Although the $PM_{10}$ annual standard was revoked in 2006, compliance with the revoked $PM_{10}$ annual standard must be demonstrated as a surrogate to the annual $PM_{2.5}$ standard.

### *2.1.3 Toxic Air Pollutant Analyses*

Emissions of toxic substances are generally addressed by Idaho Air Rules Section 161:

> *Any contaminant which is by its nature toxic to human or animal life or vegetation shall not be emitted in such quantities or concentrations as to alone, or in combination with other contaminants, injure or unreasonably affect human or animal life or vegetation.*

Permit requirements for toxic air pollutants from new or modified sources are specifically addressed by Idaho Air Rules Section 203.03 and require the applicant to demonstrate to the satisfaction of DEQ the following:

> *Using the methods provided in Section 210, the emissions of toxic air pollutants from the stationary source or modification would not injure or unreasonably affect human or animal life or vegetation as required by Section 161. Compliance with all applicable toxic air pollutant carcinogenic increments and toxic air pollutant non-carcinogenic increments will also demonstrate preconstruction compliance with Section 161 with regards to the pollutants listed in Sections 585 and 586.*

Per Section 210, if the emissions increase associated with a new source or modification exceeds screening emission levels (ELs) of Idaho Air Rules Section 585 or 586, then the ambient impact of the emissions increase must be estimated. If ambient impacts are less than applicable Acceptable Ambient Concentrations (AACs) for non-carcinogens of Idaho Air Rules Section 585 and Acceptable Ambient Concentrations for Carcinogens (AACCs) of Idaho Air Rules Section 586, then compliance with TAP requirements has been demonstrated. If

DEQ determines T-RACT is used to control emissions of carcinogenic TAPs, then modeled concentrations of 10 times the AACC are considered acceptable, as per Idaho Air Rules Section 210.12.

## 2.2 Background Concentrations

Background concentrations are used in the cumulative NAAQS impact analyses to account for impacts from sources not explicitly modeled. Table 3 lists appropriate background concentrations for the Rathdrum, Idaho area.

Background concentrations were revised for all areas of Idaho by DEQ in March 2003[1]. Background concentrations in areas where no monitoring data are available were based on monitoring data from areas with similar population density, meteorology, and emissions sources. Background concentrations in these analyses were based on DEQ default values for rural/agricultural areas.

**Table 3: BACKGROUND CONCENTRATIONS**

| Pollutant | Averaging Period | Background Concentration ($\mu g/m^3$)[a] |
|---|---|---|
| $PM_{10}$[b] | 24-hour | 73 |
| | Annual | 26 |
| Carbon monoxide (CO) | 1-hour | 3,600 |
| | 8-hour | 2,300 |
| Sulfur dioxide ($SO_2$) | 3-hour | 34 |
| | 24-hour | 26 |
| | Annual | 8 |
| Nitrogen dioxide ($NO_2$) | Annual | 17 |
| Lead (Pb) | Quarterly | 0.03 |

a. Micrograms per cubic meter

b. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers

# 3.0 MODELING IMPACT ASSESSMENT

## 3.1 Modeling Methodology

This section describes the modeling methods used by the applicant to demonstrate compliance with applicable air quality standards.

1 Hardy, Rick and Schilling, Kevin. *Background Concentrations for Use in New Source Review Dispersion Modeling*. Memorandum to Mary Anderson, March 14, 2003.

### *3.1.1 Overview of Analyses*

Table 4 provides a brief description of parameters used in the submitted modeling analyses.

| Table 4: MODELING PARAMETERS | | |
|---|---|---|
| **Parameter** | **Description/Values** | **Documentation/Addition Description[a]** |
| General facility location | Near Rathdrum | |
| Model | AERMOD | AERMOD with the PRIME downwash algorithm, version 07026 |
| Meteorological data | Spokane, Washington | Data provided by DEQ |
| Terrain | Flat | The analyses assumed relatively flat terrain for the immediate area |
| Building downwash | Considered | Buildings present on the site that could reasonably cause plume downwash were included in the analyses through the use of the BPIP-PRIME program |
| Receptor Grid | Grid 1 | 25-meter spacing along the property boundary out 200 meters (10-meter spacing along the property boundary out 50 meters)[a] |
| | Grid 2 | 50-meter spacing out to 500 meters (25-meter spacing out to 200 meters)[a] |
| | Grid 3 | 75-meter spacing out to 1,000 meters (50-meter spacing out to 500 meters)[a] |
| | Grid 4 | 250-meter spacing out to 2,000 meters |

[a.] Values in parentheses are those used for DEQ verification analyses

### *3.1.2 Modeling protocol and Methodology*

Refined air impact analyses were performed by Cascade. A modeling protocol was submitted to DEQ prior to the application and DEQ provided conditional approval of the protocol to Cascade. Modeling was generally conducted using data and methods described in the protocol and/or in the *State of Idaho Air Quality Modeling Guideline.*

### *3.1.3 Model Selection*

Idaho Air Rules Section 202.02 require that estimates of ambient concentrations be based on air quality models specified in 40 CFR 51, Appendix W (Guideline on Air Quality Models). The refined, steady state, multiple source, Gaussian dispersion model AERMOD was promulgated as the replacement model for ISCST3 in December 2005. EPA provided a 1-year transition period during which either ISCST3 or AERMOD could be used at the discretion of the permitting agency. AERMOD must be used for all air impact analyses, performed in support of air quality permitting, conducted after November 2006.

AERMOD retains the single straight line trajectory of ISCST3, but includes more advanced algorithms to assess turbulent mixing processes in the planetary boundary layer for both convective and stable stratified layers.

AERMOD offers the following improvements over ISCST3:

- Improved dispersion in the convective boundary layer and the stable boundary layer
- Improved plume rise and buoyancy calculations
- Improved treatment of terrain affects on dispersion
- New vertical profiles of wind, turbulence, and temperature

AERMOD was used in the submitted analyses and DEQ verification analyses.

### *3.1.4 Meteorological Data*

Five years of hourly meteorological data collected from Spokane International Airport were used in the modeling analyses. These data were preprocessed by DEQ staff and were provided to Cascade in model-ready format. Meteorological data may also be available for the Coeur d'Alene airport. These data must be quality assured and preprocessed through the program AERMET for them to be used as model input. For permitting

purposes, DEQ has determined this is not a reasonable requirement for projects having emissions below significance levels (Idaho Air Rules Section 006.101) when other reasonably representative meteorological data are available in a model-ready format.

### *3.1.5 Terrain Effects*

Terrain effects on dispersion were not considered in the analyses. Flat terrain was an appropriate assumption because most emissions sources are near ground-level and the surrounding area is relatively flat for dispersion modeling purposes. Emissions sources near ground-level typically have maximum pollutant impacts near the source, minimizing the potential affect of surrounding terrain to influence the magnitude of maximum modeled impacts.

### *3.1.6 Facility Layout*

The specific locations of emissions sources in the model were based on the applicant's best estimate of the proposed layout. It is understood that exact locations of many sources will vary somewhat, especially emissions from material handling operations.

### *3.1.7 Building Downwash*

Downwash effects potentially caused by structures at the facility were accounted for in the dispersion modeling analyses. The Building Profile Input Program for the PRIME downwash algorithm (BPIP-PRIME) was used to calculate direction-specific building dimensions and Good Engineering Practice (GEP) stack height information from building dimensions/configurations and emissions release parameters for AERMOD.

### *3.1.8 Ambient Air Boundary*

Cascade used the facility's property boundary as the ambient air boundary. DEQ assumed reasonable measures will be taken by the facility to preclude public access to the property.

### *3.1.9 Receptor Network*

Table 4 describes the receptor grid used in the submitted analyses. The receptor grid met the minimum recommendations specified in the *State of Idaho Air Quality Modeling Guideline*. DEQ verification analyses were performed with the following grid spacing: 10-meter receptor spacing out to 50 meters; 25-meter receptor spacing out to 200 meters; 50-meter receptor spacing out to 500 meters. This tighter grid assured maximum impacts were reasonably resolved by the model.

## 3.2 Emission Rates

Emissions rates used in the modeling analyses for the proposed project were euql to those presented in other sections of the permit application or the DEQ Statement of Basis.

### *3.2.1 Criteria Pollutant Emissions Rates*

Table 5 provides criteria pollutant emissions rates used in the modeling analyses for both long-term and short-term averaging periods.

Fugitive dust emissions from frontend loader handling of aggregate materials for the HMA plant were designated as emissions points MATHNDLO and MATHNDHI in the model, and they account for 3,384 tons of aggregate handled per day at each point. Emissions from frontend loader handling of aggregate materials for the rock crushing plant were designated as emissions points CR_AGG, and account for 9,000 tons of aggregate handled per day.

It was assumed implementation of moderate control measures will reduce emissions by 75 percent and implementation of aggressive controls (typically water sprays) will reduce emissions by 95 percent. Moderate fugitive controls were estimated for material handling operation for the northern-most part of the site (MATHNDLO) and aggressive fugitive controls were estimated for material handling operations for the area just south of the dryer stack (MATHNDHI and CR_AGG). These emissions were varied with wind speed in the model as described in the application. Emissions listed for MATHNDLO, MATHNDHI, and CR_AGG in Table 5 are based on a 10 mile per hour wind speed.

**Table 5: EMISSIONS RATES USED FOR FULL NAAQS IMPACT MODELING**

| Emissions Point | Description | Emissions Rates (lb/hr) | | | |
|---|---|---|---|---|---|
| | | $PM_{10}$[a] | Sulfur Dioxide | Carbon Monoxide | Oxides of Nitrogen |
| **HMA Plant Emissions** | | | | | |
| DRYER | Asphalt Dryer Stack | 3.45 | 0.510 | 19.5 | 0.890 |
| SILO | Asphalt Silo Filling | 0.0780 | | 0.177 | |
| LOADOUT | Asphalt Loadout | 0.0780 | | 0.202 | |
| HOTOIL | Asphalt Heater | 0.00522 | 4.12E-4 | 0.0576 | 0.0377 |
| MATHNDLO | Material Handling – Loader – Moderate controls | 0.115[b] | | | |
| MATHNDHI | Material Handling – Loader – Aggressive controls | 0.0230[b] | | | |
| HMACONVY | Conveyors | 0.257[c] | | | |
| HMASCRN | Scalping Screen | 0.104[c] | | | |
| HMATRUCK | Aggregate unloading | 0.0141 | | | |
| **Crushing Plant Emissions when Operating Simultaneously with HMA Plant[d]** | | | | | |
| CR_AGG | Aggregate Handling – Loader – Aggressive controls | 0.0610[b] | | | |
| CR_TRUCK | Aggregate unloading | 0.00600 | | | |
| CR_CONVY | Conveyors | 0.0690[c] | | | |
| CR_SCRN | Screens | 0.555[c] | | | |
| CRUSHING | Rock Crushers | 0.257[c] | | | |
| DIESLGEN | Diesel Generator | 0.195 | 0.0340 | 5.785 | 1.492 |

[a] Particulate matter with an aerodynamic diameter less than or equal to a nominal ten micrometers
[b] Emissions calculated for a base 10 mph wind speed. Emissions in the model are varied with windspeed.
[c] Calculated using a factor for controlled emissions
[d] Emissions calculated assuming a maximum daily throughput of 9,000 tons

### *3.2.2 TAP Emissions Rates*

Table 6 provides TAP emissions associated with operation of the proposed HMA. The table only includes those TAPs where total emissions exceeded emissions screening levels of Idaho Air Rules Section 585 and 586. TAPs from the diesel generator associated with operation of the rock crushing plant were not included in the analyses because TAP increments are applicable on a project-by-project basis. The rock crushing plant is a co-contributing existing source, not a source directly associated with the permitting of the HMA plant.

| Table 6: EMISSIONS RATES USED FOR TAPS IMPACT MODELING | | | | | |
|---|---|---|---|---|---|
| **TAP** | **Averaging Period** | **Emissions Rates (lb/hr)** | | | |
| | | **DRYER** | **SILO** | **LOADOUT** | **OILHEAT** |
| Benzene | Annual | 0.012 | 1.20E-4 | 6.67E-5 | 0.0 |
| Formaldehyde | Annual | 0.0955 | 2.60E-3 | 1.13E-4 | 2.69E-5 |
| POM[a] | Annual | 1.69E-5 | 2.08E-5 | 1.42E-5 | 7.68E-7 |
| Total PAH | Annual | 0.0272 | 8.92E-4 | 6.23E-4 | 1.77E-4 |
| Arsenic | Annual | 1.73E-5 | 0.0 | 0.0 | 1.01E-5 |
| Cadmium | Annual | 1.26E-5 | 0.0 | 0.0 | 3.06E-6 |
| Chromium 6+ | Annual | 1.39E-5 | 0.0 | 0.0 | 1.90E-6 |
| Nickel | Annual | 1.94E-3 | 0.0 | 0.0 | 6.49E-4 |

[a.] Polycyclic Organic Matter. Sum of benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, chrysene, indeno(1,2,3,-cd)pyrene.

## 3.3 Emission Release Parameters

Table 7 provides emissions release parameters used in the modeling analyses, including stack height, stack diameter, exhaust temperature, and exhaust velocity. All parameters appear to be within reasonably expected ranges, considering the type of sources.

| Table 7: EMISSIONS RELEASE PARAMETERS | | | | | |
|---|---|---|---|---|---|
| **Release Point /Location** | ***Source Type*** | ***Stack Height (m)[a]*** | ***Modeled Diameter (m)*** | ***Stack Gas Temp. (K)[b]*** | ***Stack Gas Flow Velocity (m/sec)[c]*** |
| DRYER | Point | 11.08 | 0.79 | 408 | 23.79 |
| HOTOIL | Point | 3.57 | 0.20 | 616 | 2.47 |
| DIESLGEN | Point | 4.27 | 0.20 | 883 | 60.30 |
| Volume Sources | | | | | |
| **Release Point /Location** | ***Source Type*** | **Release Height (m)** | **Initial Horizontal Dispersion Coefficient $\sigma_{y0}$ (m)** | **Initial Vertical Dispersion Coefficient $\sigma_{z0}$ (m)** | |
| MATHNDLO | Volume | 3.0 | 2.33 | 0.70 | |
| MATHNDHI | Volume | 3.0 | 2.33 | 0.70 | |
| LOADOUT | Volume | 6.4 | 0.81 | 5.95 | |
| SILO | Volume | 10.0 | 0.81 | 5.95 | |
| HMACONVY | Volume | 4.0 | 2.33 | 1.16 | |
| HMASCRN | Volume | 4.0 | 2.33 | 1.16 | |
| HMATRUCK | Volume | 4.0 | 2.33 | 1.16 | |
| CR_AGG | Volume | 3.0 | 2.33 | 0.70 | |
| CR_SCRN | Volume | 4.0 | 2.33 | 1.16 | |
| CR_TRUCK | Volume | 4.0 | 2.33 | 1.16 | |
| CR_CONVY | Volume | 4.0 | 2.33 | 1.16 | |
| CRUSHING | Volume | 4.0 | 2.33 | 1.16 | |

[a] Meters
[b] Kelvin
[c] Meters per second

## 3.4 Results for Full NAAQS Impact Analyses

Cascade performed a refined cumulative NAAQS impact analyses to evaluate compliance with applicable standards and to establish emissions point setback distances from ambient air locations. Results of the cumulative NAAQS impact analyses are provided in Table 8. DEQ performed verification modeling as a quality assurance check on the submitted analyses.

The submitted analyses used the maximum 6$^{th}$ highest modeled 24-hour $PM_{10}$ concentration as the design value,

as allowed when using five years of representative meteorological data. DEQ verification analyses showed compliance is still demonstrated if the maximum 2nd highest modeled value is used. DEQ often requires use of the maximum 2nd highest modeled 24-hour $PM_{10}$ concentration when the meteorological data are of questionable representativeness.

$PM_{10}$ 24-hour modeled impacts are the closest to applicable standards. Setback distances specified in Table 1 were established as the closest distance between the emissions unit and the property boundary, as used in the modeling analyses.

**Table 8: RESULTS FOR CUMULATIVE IMPACT ANALYSES**

| Pollutant | Averaging Period | Maximum Modeled Concentration[a] ($\mu g/m^3$)[b] | Background Concentration ($\mu g/m^3$) | Total Ambient Impact ($\mu g/m^3$) | NAAQS[c] ($\mu g/m^3$) | Percent of NAAQS |
|---|---|---|---|---|---|---|
| $PM_{10}$[d] | 24-hour | 36.0[e] (36.3[e])(53.4[f]) | 73 | 109.0 | 150 | 87 |
| | Annual[g] | 9.18 (10.0) | 26 | 35.2 | 50 | 57 |
| Carbon monoxide (CO) | 1-hour[g] | 166.04 (166) | 3,600 | 3,766.0 | 40,000 | 10 |
| | 8-hour[g] | 129.7 (133) | 2,300 | 2,429.7 | 10,000 | 26 |
| Sulfur dioxide ($SO_2$) | 3-hour[g] | 3.39 (3.4) | 34 | 37.4 | 1,300[k] | 16 |
| | 24-hour[g] | 2.18 | 26 | 28.2 | 365[k] | 21 |
| | Annual[g] | 0.27 | 8 | 8.3 | 80[g] | 14 |
| Nitrogen dioxide ($NO_2$) | Annual[g] | 2.87 | 17 | 19.9 | 100[g] | 30 |

[a]Values in parentheses were obtained through DEQ verification modeling
[b]Micrograms per cubic meter.
[c]National ambient air quality standards
[d]Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
[e]Modeled design values are the maximum 6th highest modeled value from a 5-year meteorological data set
[f]Modeled design values are the maximum 2nd highest modeled value from a 5-year meteorological data set
[g]Modeled design values are the maximum 1st highest modeled value from a 5-year meteorological data set

## 3.5 Results for TAPs Analyses

Cascade performed TAPs impact analyses to evaluate compliance with applicable increments for those TAPs having emissions above screening levels of Idaho Air Rules Section 585 and 586. Results of the TAPs impact analyses are provided in Table 9. Impacts of POM were the closest to applicable TAP increments, with maximum impacts of 90 percent of the AACC. As stated in Section 2.1.3, impacts of up to 10 times the AACC are acceptable if the facility utilizes T-RACT controls. Although the applicant did not submit a T-RACT analysis, and did not need to submit a T-RACT analysis, DEQ has previously determined that a baghouse on exhaust from the drum dryer is T-RACT for HMA plants.

**Table 9: RESULTS FOR TAP IMPACT ANALYSES**

| Pollutant | Averaging Period | Modeled Impact ($\mu g/m^3$)[a] | AAC/AACC[b] ($\mu g/m^3$) |
|---|---|---|---|
| Benzene | Annual | 0.00697 (0.00699)[c] | 0.12 |
| Formaldehyde | Annual | 0.0589 (0.0593)[c] | 0.077 |
| POM[a] | Annual | 2.7E-4 (2.8E-4)[c] | 3.0E-4 |
| Total PAH | Annual | 0.01250 (0.0126)[c] | 0.014 |
| Arsenic | Annual | <1.0E-5 (1.0E-5)[c] | 2.3E-4 |
| Cadmium | Annual | <1.0E-5 (1.0E-5)[c] | 5.6E-4 |
| Chromium 6+ | Annual | <1.0E-5 (1.0E-5)[c] | 8.3E-5 |
| Nickel | Annual | 1.05E-3 (1.05E-3)[c] | 4.2E-3 |

[a.]Micrograms per cubic meter.
[b.]Defined in Idaho Air Rules Section 585 and 586
[c]Value obtained through DEQ verification modeling

## 4.0 CONCLUSIONS

The ambient air impact analyses demonstrated to DEQ's satisfaction that emissions from the facility will not cause or significantly contribute to a violation of any air quality standard.

# Appendix D – Facility Comments